

1737
10/510144
DTG4 Rec'd PGT/7/11 C 3 OCT 2004

AMENDMENTS TO THE CLAIMS

The listing below of the claims presents in amended form claims 1 through 9 that were approved by the International Preliminary Examination Authority and that were determined to satisfy the PCT patentability criteria in the international phase of the corresponding PCT application. Claims 8 and 9 are new claims that are also based upon the approved PCT claims. The following claims replace all prior versions and listings of claims in the present application:

Listing of Claims:

Claim 1 (currently amended): A method of producing a heating element ~~that is comprised~~ containing essentially of molybdenum silicide and alloys of ~~this basic material thereof~~, which forms ~~aluminium~~ aluminum oxide on its surface, ~~characterised by said method comprising the steps of:~~ producing a material that contains substantially $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ and Al_2O_3 by mixing a mixture of a silicon and a molybdenum compound with an ~~aluminium~~ aluminum compound ; ~~in that , wherein the silicon and molybdenum compound either include mixture includes~~ $\text{Mo}(\text{Si}_{1-y}\text{Al}_y)_2$ and are ~~is~~ mixed with ~~either an aluminium~~ aluminum compound ~~consisting including at least one of Al_2O_3 or $\text{Al}(\text{OH})_3$ and possibly mixed with one or more of the compounds SiO_2 , Si and MoO_3 or by virtue of the mixture of the silicon and molybdenum compound containing MoO_3 and Al and Si and/or SiO_2 ; in that , wherein the input mixture components together have a degree of purity corresponding to at least 98%; and in that~~ reacting the mixture ~~is caused to react~~

~~exothermically and/or by being sintered~~ components by at least one of
exothermic reaction and sintering so that exchange reactions ~~are caused to~~ take
 place ~~[[,]]~~ to form the compounds $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ and Al_2O_3 , where x ~~is caused to~~
~~lie~~ lies in the range of 0.4 - 0.6.

Claim 2 (currently amended): A method according to Claim 1,
~~characterised in that said~~ wherein SiO_2 is included in ~~silicates, such as mullite~~
~~and sillimanite, which do~~ the mixture is a silicate and does not effect the affect
~~symmetry of the crystal lattice of molybdenum silicide~~ crystal lattice.

Claim 3 (currently amended): A method according to Claim 1 ~~or 2~~,
~~characterised in that~~ , wherein x ~~is caused to lie~~ lies in the range of 0.45 - 0.55.

Claim 4 (currently amended): A method according to Claim 1 ~~2 or 3~~,
~~characterised by~~ , including the step of adding at least one or more of the
~~following sintering auxiliaries MgO, CaO, SiO₂ and Y₂O₃ to said mixture.~~

Claim 5 (currently amended): A method according to Claim 1 ~~2, 3 or 4~~,
~~characterised by~~ , including the step of partially substituting for molybdenum at
least one of Re or W or Nb in the material $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ partly with Re or W or Nb
~~in the material $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$.~~

Claim 6 (currently amended): A method according to Claim 5, ~~characterised by~~ including the step of replacing molybdenum with W in an amount corresponding to approximately one third.

Claim 7 (currently amended): A method according to ~~any one of the preceding Claims, characterised in that~~ claim 1, wherein the heating element input components have a degree of purity of at least 99% .

Claim 8 (new): A method according to claim 1, including the step of adding to the mixture at least one of the compounds SiO_2 , Si, and MoO_3 .

Claim 9 (new): A method according to claim 1, wherein the mixture of the silicon and the molybdenum compound contains MoO_3 and Al, and at least one of Si and SiO_2 .

Claim 10 (new): A method according to claim 2, wherein the silicate is mullite.

Claim 11 (new): A method according to claim 2, wherein the silicate is sillimanite.